

Patent Abstracts of Japan

PUBLICATION NUMBER : 61019747
PUBLICATION DATE : 28-01-86

APPLICATION DATE : 04-07-84
APPLICATION NUMBER : 59137206

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INT.CL. : C22C 9/00 B41M 5/26 C22F 1/08 G11B 7/24 G11C 13/04

TITLE : SPECTRAL REFLECTANCE VARIABLE ALLOY AND RECORDING MATERIAL

ABSTRACT : PURPOSE: To enable the use as a medium for recording information, by preparing an alloy, which takes different spectral reflectances on the basis of the change in a crystal structure due to quenching and heating, by forming the eutectoid structure of copper and Al being main components.

CONSTITUTION: A Cu-Al alloy based on copper is melted to obtain a golden color ingot which is, in turn, melted to be formed into a ribbon like foil by a quenching method. This ribbon shows brown color tone at room temp. When a part of this ribbon is heated, the heated part shows a golden color at room temp. That is, this alloy has different crystal structures and spectral reflectances between first temp. higher than room temp. and second temp. lower than room temp. The brown color and the golden color by this change in temp. are different in spectral reflectance even in all wavelength regions excepting the wavelength region of about 720nm and can be discriminated. These color tones can be preserved permanently. Therefore, brown color signal information can be stored on the golden color substrate by local heating by laser. Further, the change in color tone is reversible and the erasion of recording can be performed.

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